

REMARKS

INTRODUCTION:

In accordance with the foregoing, claim 17 has been amended, and claim 24 has been added. No new matter is being presented, and approval and entry are respectfully requested.

Claims 2, 3 and 5-24 are pending and under consideration. Claim 24 is directed to elected species III. Claims 2, 3 and 5-16 are withdrawn.

In the IDS submitted concurrently herewith, Applicants are resubmitting Japanese Laid-open Utility Model Publication No. 01-156464. Japanese Laid-open Utility Model Publication No. 01-156464 was submitted in an IDS filed March 7, 2002, but an English translation of the abstract of Japanese Publication No. 01-156464 was attached. Japanese Publication No. 01-156464 corresponds to Application No. 62-313216, entitled "VAPOR DEPOSITION DEVICE FOR WIRE ROD," which was published June 20, 1989, and has no bearing on the subject application.

AMENDMENTS TO THE DRAWINGS:

In the Office Action at page 2, item 1, the Examiner objected to the drawings. To overcome these objections, replacement figures are submitted herewith. In FIG.35, the legend "Prior Art" has been added. Applicants respectfully submit that the Examiner's objection is overcome.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 3, item 4, the Examiner rejected claims 17-18 and 20-23 under 35 U.S.C. §103 (a) as being unpatentable over applicants' admitted prior art (AAPA) in view of French et al. (U.S. 6,535,135 – hereinafter French) The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 6, item 10, the Examiner rejected claim 19 under 35 U.S.C. §103 (a) as being unpatentable over applicants' admitted prior art (AAPA)

in view of French, and further in view of Minarczik et al. (U.S. 5,790,631 – hereinafter Minarczik). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Amended, independent claim 17 recites: "...the wireless transmitter including a transmitter installed on the wheel support member, and a receiver installed on the automotive body structure, the transmitter transmitting the signal from the sensor by way of a feeble radio wave, the receiver including a demodulating circuit that provides the transmitted signal and a radio field strength signal indicative of the field strength of the transmitted radio wave; and a controller installed on the automotive body structure determining a control of a braking force in dependence on the sensor output signal and the radio field strength signal."

The Examiner asserts that it would have been obvious for one of ordinary skill in the art at the time of the invention to combine French with the AAPA to achieve the claimed invention. Applicants respectfully disagree. While French does disclose a wireless transmitter 70, a receiver E physically separated from the transmitter 70, and a microprocessor 68 processing signals received from sensors 66, the devices disclosed in French are directed to determining operating conditions of the bearing, to detect impending failures in the roller bearing A. (See French, at col. 2, line 1, and col. 6 line 31 – col. 7, line 25.)

In contrast, the claimed invention of the subject application uses the number of revolutions of the bearing and a strength of the signal transmitting the number of revolutions to control a braking force of an anti-skid braking system. The claimed invention operates despite external jamming radio waves and high power radio waves, to properly control the braking force. (See Specification, at p. 70, lines 7-18.)

French does not disclose any use of strength of the signal transmitted by the transmitter, and does not disclose any countermeasures against external jamming radio waves or high power radio waves.

Thus, Applicants respectfully submit that French, either alone or in combination with the AAPA, neither discloses nor suggests "...the wireless

transmitter including a transmitter installed on the wheel support member, and a receiver installed on the automotive body structure, the transmitter transmitting the signal from the sensor by way of a feeble radio wave, the receiver including a demodulating circuit that provides the transmitted signal and a radio field strength signal indicative of the field strength of the transmitted radio wave; and a controller installed on the automotive body structure for determining a control of a braking force in dependence on the sensor output signal and the radio field strength signal."

Claim 18 recites: "...wherein the controller controls not to perform an anti-skid braking operation unless a predetermined condition is satisfied in dependence on the sensor output signal and the radio field strength signal."

And claim 21 recites: "...wherein the controller includes a software program describing procedures to determine the control of the braking force in dependence on the sensor output signal and the radio field strength signal, and a computer capable of executing the software program.

Regarding claims 18 and 21, the examiner asserts that French discloses a controller "...determining the control of braking force in dependence on the sensor output signal and the radio field signal." Applicants respectfully disagree.

The portion of French cited by the Examiner recites:

"The processor 68 processes the signals received from the sensors 66 and communicates data representative of the sensed signals to the transmitter 70. The processor 68 can be programmed to evaluate signals received from the sensors 66 and generate an alarm signal when a signal from any one of the sensors 66 represents an unusual or deteriorating condition in the bearing A, the alarm signal being transmitted to the receiver E via the transmitter 70. It should be noted, however, that while autonomous alarm conditions at the bearing level are possible, determination of alarm conditions also can take place at the receiver E end. The processor 68, being coupled to the power supply 64, also produces a signal that reflects angular velocity. The transmitter 70 converts the signals from the processor 68 to radio frequency, and radiates them as electromagnetic waves from an antenna that is likewise embedded within the ring 60. Hence, the antenna also lies within the confines of the cup 24, and the cup 24 does not require any special alterations to accommodate it. The transmitter 70 of the preferred embodiment is a microtransmitter having the capacity for spread spectrum modulation and providing radiated power levels up to one (1)

Watt as permitted in FCC regulation Part 15.247.” (French, col. 6, lines 4-26.)

Applicants respectfully submit that there is no indication that the devices disclosed in French use strength of a transmitted signal for any purpose whatsoever. Further, there is no indication that the devices disclosed in French are used to control a braking force, or used to determine whether to use an anti-skid braking operation.

Claim 23 recites: “...determining, by way of a controller installed on the automotive body structure, a control of a braking force in dependence on the sensor output signal and the radio field strength signal.”

As noted above, there is no indication that the devices disclosed in French use strength of a transmitted signal for any purpose whatsoever. Thus, Applicants respectfully submit that French, either alone, or in combination with the AAPA does not disclose or suggest “...determining, by way of a controller installed on the automotive body structure, a control of a braking force in dependence on the sensor output signal and the radio field strength signal.”

Claim 19 recites: “...wherein the controller determines the control in reference to a voltage of a duplex signal in which the sensor output signal and the radio field strength signal are duplexed.”

The Examiner asserts that one of ordinary skill in the art at the time of the invention would have been motivated to combine French with Minarczik. Applicants respectfully disagree.

As noted above, there is no indication that the devices disclosed in French use strength of a transmitted signal for any purpose whatsoever. Additionally, Minarczik relates to “...methods and apparatus for temporarily replacing a cut or otherwise damaged subscriber loop drop cable in a telephone system with a wireless or cordless telephone link.” (Minarczik, col. 1, lines 5-8.)

Thus, Applicants respectfully submit that one of ordinary skill in the art would not be motivated combine methods and apparatus for temporary phone system repair with a wheel bearing wirelessly transmitting data from internal bearing sensors.

Further, since French does not disclose any use of the strength of a transmitted signal, one of ordinary skill in the art would not be motivated to even attempt to duplex the sensor output signal with the radio field strength signal.

Applicants respectfully submit that independent claims 17 and 23 patentably distinguish over the cited art, and should be allowable for at least the above-mentioned reasons. Further, Applicants respectfully submit that claims 18-22, which depend from independent claim 17, should be allowable for at least the same reasons as claim 17, as well as for the additional features recited therein.

NEW CLAIMS

Applicants respectfully submit that for at least similar reasons as those stated in the section regarding the rejection under 35 U.S.C. §103, new claim 24 patentably distinguishes over the cited art and should be allowable.

CONCLUSION:

In accordance with the foregoing, Applicants respectfully submit that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the cited art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Serial No.: 10/091,579

Respectfully submitted,

STAAS & HALSEY LLP

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By: Michael A. Bush
Michael A. Bush
Registration No. 48,893

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

AMENDMENTS TO THE DRAWINGS:

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